

THE CONDOR

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Ornithology



Volume V

November-December, 1903

Number 6



COOPER ORNITHOLOGICAL CLUB

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NESTS OF MEXICAN CORMORANTS, LAKE CHAPALA, JALISCO, MEX., DEC. 25, 1902

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Volume V

November-December, 1903

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Notes on the Mexican Cormorant

BY E. W. NELSON

AMONG the rugged cliffs and headlands of the Aleutian Islands I first saw cormorants in sufficient numbers to become familiar with their habits. The impression made at this time by the birds and their surroundings was so lasting that ever since their presence in a locality creates a sense of strange wildness that adds a peculiar charm to their haunts. Some of the species, however, live in situations quite different from the rude storm beaten crags overlooking northern seas where so many of them congregate.

The Mexican cormorant (*Phalacrocorax mexicanus*) is one of these dwellers amid milder surroundings. It is a wide ranging species wandering up the Mississippi Valley to southern Illinois and is found thence south to Central America, and even known to Cuba and Watling's Island in the Bahamas. In the intermediate area on the mainland they occur mainly along the coast lagoons from Texas south on the gulf coast, and from southern Sonora on the Pacific side of Mexico. From the lagoons they range up the larger rivers well into the interior. During our work in Mexico Mr. Goldman and I have become most familiar with them in the tropical and subtropical parts of the southwestern section of that country. Although they are found in the coast lagoons north to southern Sonora they are most abundant in these situations from Sinaloa southward. We saw them on the Balsas River and its tributaries in the heart of Michoacan and Guerrero, and they follow the Rio Santiago up through Jalisco to Lake Chapala, at 5000 feet altitude, on the southwestern border of the Mexican tableland.

From the distribution given, it is apparent that this is mainly a fresh or brackish water species in its mainland distribution, and Gundlach states that the few he saw in Cuba were found about fresh water.

Though mainly habitants of fresh and brackish water, to some extent these birds also frequent sea islands. The most notable instance of this kind that has come to my attention is that of Watling's Island in the Bahamas. There, on July 11, 1903, Mr. J. H. Riley of the National Museum found about fifty pairs breeding in the tall mangroves about a salt lagoon. The eggs were mostly hatched at that time and the young were in all stages of growth. Some of them, though not able to fly, had left the nests and were swimming about in the lagoon. The last of April, 1901, while Mr. Goldman and I were cruising around the shore of Yucatan in a small boat we landed for a short time on Contoy Island near Cape Catoche. Here we found many of these cormorants perched in the mangroves bordering some small salt lagoons, in company with white ibises and man-o'-war birds. In the trees were some old cormorant nests, all of which were unoccupied.

Last March we camped on a small river at the bottom of a deep canyon in central Michoacan; this stream runs a tortuous course between high rocky walls



LAKE CHAPALA, JALISCO, MEXICO, SHOWING LARGE BOAT ROOFED WITH RUSHES

and at short intervals breaks into foaming rapids. Our camp was on a narrow sandy flat at the water's edge, under the overhanging branches of some small mahogany and other trees that had secured a foothold in the talus at the foot of a cliff. As we lived here unsheltered except by the foliage, the happenings among the wild life of this solitary place were under constant observation. Among the interesting daily events was the passage up the river each morning of several Mexican cormorants, always flying singly, their glossy black plumage gleaming in the intense sunlight as they turned. They were evidently on their way to some fishing ground higher up, and several hours later—usually about midday—came back following, as in the morning, all the wanderings of the river and giving a touch of completeness to the wild character of the surroundings.

In the summer of 1897 we found them in abundance about the lagoons and streams of the coast country in southern Sinaloa, and especially at some shallow rapids in the Rosario River a few miles above the town of Rosario. During the early part of the rainy season the river was low and at the place mentioned a short descent in the boulder strewn bed of the stream made a stretch, forty or fifty

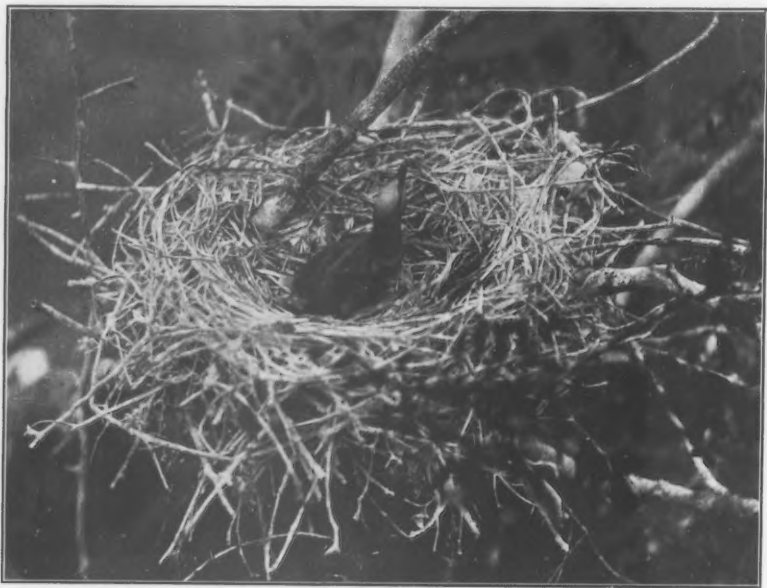
yards long, of brawling rapids. Every morning dozens of cormorants flew up stream to the rapids from the mangrove-bordered lagoons near the coast. They flew low along the water, sometimes singly and sometimes in small parties, usually keeping side by side in a well formed line when two or more were together. For a time most of them perched about on the numerous projecting stones in the river, preening their plumage and sunning themselves; others swam idly in the



NESTS OF MEXICAN CORMORANTS, LAKE CHAPALA

slow current about the rapids. At such times the brilliantly green masses of foliage bordering and often overhanging the water, the swift dark stream broken by jutting rocks on which were the numerous, black, sharply outlined forms of the cormorants, and overhead the crystalline depths of the morning sky of the rainy season made a wonderfully beautiful picture.

When a considerable number of cormorants had congregated they seemed to become suddenly animated by a common purpose and followed one another in swift flight to the foot of the rapids. There most of the assembled birds alighted and formed a line across a considerable section of the river. Then with flapping wings, beating the surface of the water into foam, the black line moved up stream, the birds showing much excitement but keeping their places very well. The surface of the water was churned to spray by the strokes of so many powerful wings and feet, yet in the midst of the apparent confusion the birds could be seen darting to one side or the other, or spurting a few feet ahead of the line, and sometimes disappearing for a moment below the surface but nearly always securing a fish. When they reached the head of the rapids the birds flew heavily to their perching stones or swam slowly up the quiet surface of the river. After a short rest the



YOUNG MEXICAN CORMORANT, LAKE CHAPALA, JAN. 5, 1903

line would reform and again beat up the rapids and this was repeated until the birds had satisfied their hunger.

The cormorants evidently fully appreciated the advantages of thus working in company, so that a fish trying to escape from one bird would almost certainly become the prey of another. The purpose of beating the surface of the water with their wings was evidently in order to alarm and confuse the fish so that they would dart blindly about and become more easily captured. I have seen parties of gannets doing the same thing in the midst of schools of fishes off the Tres Marias Islands.

When the cormorants were gorged they deserted the fishing ground for the day and streamed back down the river to the lagoons where they perched motionless for hours in large mangroves or other trees along the edge of the water.

The west coast lagoons are long lake-like bodies of brackish water varying greatly in size and proportion but nearly always fringed by a more or less dense growth of mangroves. These are low, rarely rising over twenty-five or thirty feet, and as the leafage begins at the water's edge they present a solid wall of dark green, back of which often rises the larger growth of scattered forests. Here and there among the mangroves occur dead and weathered trees, or lacking these, wide branching living trees which project over the water. These are favorite congregating places for the Mexican cormorants which, with their somewhat grotesque outlines, form a conspicuous figure of the bird life in such localities. These birds are not considered game by the Mexicans and this combined with the high price of ammunition, is sufficient to protect them from wanton killing so that they are not often disturbed and will permit a canoe to approach within easy gunshot before they clumsily take flight. They are heavy-bodied and awkward and frequently fall from the perch into the water and try to escape by swimming in preference to flight. When driven to take wing from such a perch they commonly make a broad circuit and returning pass near the canoe and turn their heads in evident curiosity to examine the cause of the alarm. Their flight like that of other cormorants is steady and rather labored, and as they circle about an intruder they often glide for some distance on outspread wings, turning their long outstretched necks toward the object of their curiosity and presenting almost as grotesque an appearance as the snake-bird.



MEXICAN CORMORANT ON NEST, LAKE CHAPALA

Although the cormorant had been familiar to me for a number of years, it was not until recently that I had the chance to learn anything of its breeding habits—and this to my surprise occurred on Christmas day, apparently a most unpropitious season to go bird nesting, even in the tropics, on this side of the Equator. On December 23, 1902, Mr. Goldman and I reached Ocotlan, Jalisco, a small town located on the Santiago River close to the point where it flows out of the northeastern corner of Lake Chapala. This lake, the largest body of fresh water in Mexico, is on the southwestern border of the tableland at an elevation of 5000 feet above the sea. In its greatest dimensions it measures about twenty by sixty miles. Its main tributary, the Lerma river, flows through extensive marshes into the eastern end of

the lake only a few miles from the outlet of the lake into the Santiago; the two sections of what is really the same stream thus, after Spanish fashion, bearing distinct names.

Our object in visiting this point was to learn as much as possible about the water-fowl which winter abundantly in the marshes bordering the east end of the lake and along the lower Lerma.

By invitation of an American in charge of a plantation near Ocotlan we embarked on Christmas day with our host and his wife in one of the large sail boats used for the commerce between the towns on the lake, for a trip to the mouth of the Lerma on a hunt for geese and ducks. The boat was large and apparently built on the model of a flat-iron with a thatched roof of rushes over the stern, and with such high sides that one could walk comfortably about on the flat bottom or climb up to the bow where a decked space covering the forward third of the boat gave a place where one could lie and watch the picturesque views furnished by the mountains which enclose the lake on nearly all sides. A large square sail caught the light breeze and drew us slowly away from shore and for some time I strained my eyes to but little purpose for signs of bird life. In the afternoon we reached the shore near the mouth of the Lerma and saw several species of herons and ducks about patches of rushes, and many cormorants were flying in pairs or in small parties drawn out in line and at a distance not easily distinguishable from geese. The cormorants were all headed toward a common point in the shallow part of the lake, beyond the mouth of the river, which our native boatmen assured us was their roosting place. The winter climate is delightful in this region and as Christmas night closed down we sat on the deck, while we drifted slowly along near the reedy shore, and watched the most brilliant display of stars come out as the rich afterglow faded away. In the intense blackness of the shoreline the cheerful twinkling of lights here and there marked the locations of villages and followed the tolling of the vesper bells that came to us, mellowed by distance, at twilight. There were no signs of the expected geese but from time to time the voices of other waterfowl arose on the adjacent marsh, exciting pleasant anticipations for the coming day. With some reluctance we left the beauties of the night and sought our blankets. Just as we were drifting into forgetfulness a medley of clanging notes awoke us and we heard a flock of white-fronted geese (*Anser gambeli*) settle near us in a pond on shore.

The next morning several flocks of geese left the ponds in the vicinity soon after daybreak and a large number of cormorants dispersed from the part of the lake where they had gathered the evening before. All day until the middle of the afternoon we poled about in the shallows at this end of the lake among patches of reeds and marsh grass with stretches of open water between and were very successful in securing numerous species of waterfowl. In the afternoon a long line of whitened bushes growing in the open water some distance away was pointed out by our host who said he had passed there a short time before and found a lot of cormorants nesting in them. I could scarcely credit this but the whitened appearance of the bushes showed that the birds used the place as a roost at least and I decided to investigate. As we poled near enough we saw that the bushes, or small trees which projected twelve or fifteen feet from the water were full of cormorants and many could be seen standing on nests. We stopped the boat when within one hundred yards and after removing our clothing slid cautiously overboard into from three to four feet of water. Camera in hand Goldman and I stalked the birds to within about forty yards and secured a few exposures. The

bushes extended in a narrow belt for about two hundred yards in the otherwise open water and in them were perched between two to three hundred birds. At our first stop the outstretched necks and changing position of some of the birds gave evidence of their uneasiness and as we waded still nearer most of them flew clumsily down into the open water. After moving out a hundred yards beyond the line of bushes they formed a black line on the water where they remained as long as we stayed in the vicinity. When the birds became alarmed at our approach they began a curious guttural grunting which came in a low continuous chorus from those left in the bushes as well as those in the water. These notes sounded much like the low grunting of a lot of small pigs while feeding. As we waded among the bushes the birds which had remained by their nests pitched off into the water one after the other and swam out to join the main flock; or took wing, and after a short detour, came circling close overhead, uttering at short intervals their guttural notes of alarm or protest.

The nests were strong platforms placed on forking branches and measured about fifteen inches across and four to six inches deep with a shallow depression in the top. They were composed entirely of small sticks compactly arranged as is shown in detail in the accompanying photographs. From one to half a dozen nests were placed in a bush and we planted our tripods in the muddy bottom and standing nearly waist-deep in the water secured good pictures before calling up the boat and getting abroad. As the bushes were scattered we had no trouble in poling about and examining the nests at leisure. Most of them were just completed and contained no eggs. Quite a number had a single egg and in a few cases two eggs were found. A series of eighteen eggs were taken. They are rather small for the size of the bird and have a pale green ground color overlaid with the usual chalky white deposit which gives them a greenish white shade.

Three eggs representing the extremes of variation out of this series measure respectively (in millimeters) 55.4 by 33.2; 52.2 by 41.6 and 53 by 34.3.

After finishing our inspection of the nests we returned to the large boat so late that the day breeze failed and left us drifting about the lake all night and prevented our reaching town until late the following day.

On January 5, 1903, we made another visit to this nesting place and with the exception of a single young bird recently hatched the nests of the entire colony were absolutely empty, so it was evident that the place had been deserted as the result of our former visit. Instead of between 200 and 300 birds which we saw on our first visit not more than fifty were seen this time.

The water in the lake and river was unusually low this season which may account for the presence of this unexpected colony, for the native fishermen agreed in saying that these birds only nest in some trees far up the lake shore, and sometimes in large willows along the marshy borders of the Lerma near its outlet in the lake. However that may be, it was a stroke of good Christmas luck that we made this find since the nesting habits of this species appear to be practically unknown so far as I have found in published accounts of the species.

After a few minutes of the closest inspection, he repeated the note "cuh" several times slowly in a low guttural tone, perhaps to tell his mates that the coast was clear. Nothing in his actions had appeared to me extraordinary, as I have frequently seen one lone quail perched in full view, when I have been hunting.

Soon after he had uttered the low notes, I noticed several quail coming out from the brush fence at different points near where the first one had, but the most noticeable thing about their advent was that they were perfectly fearless, slowly walking around picking up gravel or eating grass and clover leaves. Some were even fluffing out their feathers or scratching their heads with their claws, while two lazy ones rolled over on their sides and had a dust bath. None of them were alert and to see them there an observer would believe that hawks and men never existed to torment them. Gradually they kept on coming through the brush fence until I counted thirty-seven in the bunch.

All this time the lone bird at S had remained intensely alert but silent; not even the rippling conversational notes of his mates (which sound so much like the gurgling of a tiny stream in its rocky bed) had disconcerted him. With my glass I could see his brown eye roving everywhere, now up, now down, never apparently longing for the clover his mates were eating but always watchful. The contrast between this lone bird so alert and his fellows close by, free and light-hearted, as if they were out on a vacation, was a puzzle to me.

Slowly the bunch moved forward in the direction of the dotted line in the sketch, now widely separated only to gather closer together a little farther on, all the time with most of their plumed heads bent low among the clover roots, seeking their favorite dainties the clover seeds, while now and then a few would linger behind, taking a bath in the warm dust.

Overhead a few fleecy clouds drifted lazily across the sky, and occasionally the lightest breeze shook out the crimson tassels of the budding oaks, or passed silently across the swirling waters of the ditch. All the world seemed at peace. Numerous insects droned in harmony from everywhere and the quail still moved along.

When they reached the point C in the sketch, one of their number ran to the point marked S and perched himself on the top of a large pile of brush at that point. This was done silently and without any note or call from the lone bird or from any of the feeding birds, only the low murmuring notes of the flock breaking the silence, as they slowly followed along the course indicated by the dotted line in the sketch. After a few minutes the quail in the dead peach tree quietly joined his mates on the ground, while the bird on the brush pile remained alert and almost motionless.

Probably a quarter of an hour had elapsed between the appearance of the first and second watchful birds at their post. At the point C the flock was only twenty-three feet from me by actual measurement, the ditch intervening between us. From this point they slowly worked up the hillside through a lot of tall dead weeds, close to the brush pile at S.

Far off on the edge of the woods the resonant drumming of a woodpecker came to me faintly, while the scream of a quarrelsome blue jay caused the lone quail to move his head quickly in that direction.

About this point the birds curved their course back towards the brush fence and I began to wonder whether some other bird would repeat the previous peculiar actions, which by this time began to have an appearance of design and not mere chance, but no such thing occurred and the bunch moved forward quietly for some few minutes until they came to the point marked E in the sketch, where

a single bird separated quietly from the flock, and running to the foot of a fence post at S² reached the top by a short flight. At this point of my observations I became very much interested, anxiously waiting for the lone bird at S¹ to rejoin the flock, as proof of my theory that the whole performance was prearranged and intentional, and not of an accidental nature, and after a minute or so the bird quietly did so.

To say the least I was delighted, for here was something worth following up. That these birds were schemers, I had had to previously acknowledge after many a hard day's unsuccessful tramp after them, but to find out that that they had a well organized system of protecting themselves while feeding out in open ground was an eye-opener.

From E they followed the dotted course, crossing their original line of travel and moving slowly, finally disappeared into the brush fence at G on their way to the old apple orchard. After some little time the lone quail at S² also left his post and was lost to sight with the rest of the bunch.

My initial interview with the valley quail in their own homes had proved successful beyond my expectations and I had been able to keep close track of all their movements and that too when they were some distance from any shelter.

Such ideal conditions for observation and study do not always occur and the wonder was that there was not some kind of an interruption.

That the facts of the case were just as stated and not mere guess work on my part, I have proved several times since then, sometimes by accidental observations and sometimes by a good deal of perseverance, and only as recently as January 25th, of this year, I watched a flock of valley quail slowly pass through a small orange orchard up in one of the Santa Barbara canyons, in their course crossing a country wagon road in perfect unconcern, while a lone quail on the top of a fencepost "sentined" the procession from his position.

These tactics are adopted only when the flock wishes to feed or pass through some more or less open piece of ground, I believe, for although I have watched them repeatedly when they were in the timber, I have never yet seen them put out a sentry.

The most frequent instances in which I have noticed this sentineling has been when they were feeding or dusting themselves along a much used road, for in other cases where cover is close at hand they seem to rely on it more, but during the mating season I have had female quail come within ten and once within five feet of me, fearlessly looking under or into old logs or brush heaps for a possible nesting place, while the male bird perched on an uprooted stump or log and kept the keenest kind of a gaze on me, from his position thirty or more feet away from me.

Under such conditions of observation the observer must become like the stone or tree against which he rests motionless, and this is why I said in the first place that a student of valley quail must put up with a great deal, but in the end he is amply repaid for the time and trouble he has been put to.

Whether the male bird alone acts as sentinel I am unable to say, and leave it to future study, but hereafter when you see one quail perched alone and in full view, you can be sure that in most cases the flock is close by, so don't shoot him because he is such an easy mark.

In regard to this habit seen in other kinds of game birds, I have no knowledge, but although I have studied our mountain quail (*Oreortyx p. plumiferus*) a great deal, I have never come across anything that would indicate the occurrence of this habit in the species.

A List of Birds Observed in Cochise County, Arizona

BY WILFRED H. OSGOOD

(Concluded)

Spizella breweri. Brewer Sparrow. Found in company with the preceding species but in fewer numbers.

Junco hyemalis. Slate-colored Junco. One specimen was shot in the corral Dec. 30, being the only Junco seen in the valley. On February 3, in the Dragoon mountains I took another with sides slightly pinkish.

Junco mearnsi. Pink-sided Junco. Common in winter in all the mountainous country.

Junco connectens. Shufeldt Junco. Abundant. Flocks of several species were always seen in the Dragoons in winter.

Junco caniceps. Gray-headed Junco. Found with the preceding but not quite so common.

Amphispiza bilineata. Black-throated Sparrow. First taken April 28 after which it rapidly became the most common bird of the mesquite district. I found a half-dozen of their nests containing sets of three eggs each May 20. Nests were placed in small mesquites from 4 to 20 inches from the ground.

Amphispiza belli nevadensis. Sage Sparrow. The sage sparrow was very common during the winter months. Seen in flocks about the leafless mesquites till about the middle of March when it was replaced by *Amphispiza bilineata*.

Aimophila ruficeps scotti. Boucard Sparrow. One was seen April 18. I stood within six feet of it as it skipped through a mesquite but I had no gun and could not secure it.

Melospiza melodia montana. Mountain Song Sparrow. One taken at Sulphur Spring March 16.

Melospiza lincolni. Lincoln Finch. One taken at Sulphur Spring March 16. No others were seen.

Pipilo maculatus megalonyx. Spurred Towhee. A fairly common resident in the Dragoon and Chiricahua mountains.

Pipilo fuscus mesoleucus. Canyon Towhee. Common in the mountains. Eggs far advanced in incubation were found May 1.

Oreospiza chlorura. Green-tailed Towhee. Very common in the Dragoon mountains about May 1. Seen also in the valley where the first specimen was taken April 23.

Zamelodia melanocephala. Black-headed Grosbeak. A few stopped in the cottonwoods May 18 and others were seen in the Dragoon mountains later.

Guiraca caerulea lazula. Western Blue Grosbeak. Seen only in the Chiricahua mountains.

Calamospiza melanocorys. Lark Bunting. Several flocks wandered about the valley and occasionally appeared about the ranch where I secured a number of specimens.

Piranga ludoviciana. Western Tanager. First taken May 18; afterwards seen sparingly among the mesquites near the house at Allaire's.

Piranga hepatica. Hepatic Tanager. Taken in the Dragoon mountains May 4.

Piranga rubra cooperi. Cooper Tanager. A young male taken May 18 was the only one seen.

Tachycineta bicolor. White-bellied Swallow. Found in numbers in the Dragoon mountains May 4. No specimens taken.

Stelgidopteryx serripennis. Rough-winged Swallow. Several swallows supposed to be this species were seen April 8.

Lanius ludovicianus excubitorides. White-rumped Shrike. Abundant; frequently seen perched on the topmost twig of a mesquite. Several sets of five eggs were taken in April from nests a few feet above the ground in mesquite and catclaw bushes.

Vireo gilvus. Warbling Vireo. Quite common after May 3 when the first was taken.

Helminthophila celata lutescens. Lutescent Warbler. One taken in the Dragoon mountains May 4.

Dendroica auduboni. Audubon Warbler. Seen occasionally through the winter and spring. Several were taken.

Dendroica nigrescens. Black-throated Gray-Warbler. Several were seen in the cottonwoods near the ranch, April 15. Later they were seen in the brush and May 4 a number were taken in the Dragoon mountains.

Dendroica townsendi. Townsend Warbler. Five specimens were taken in the Dragoon mountains May 4.

Dendroica occidentalis. Hermit Warbler. Taken in the Dragoon mountains May 4.

Geothlypis tolmiei. MacGillivray Warbler. Taken near the house at Allaire's May 3. Later it became common in the brush and in the Dragoon mountains where several were taken.

Geothlypis trichas occidentalis. Western Yellowthroat. One taken March 16, occasionally seen later.

Wilsonia pusilla pileolata. Pileolated Warbler. Seen in the cottonwoods near the house April 15. Later it became the most common warbler.

Anthus pensilvanicus. American Pipit. One was taken at Sulphur Spring March 16 and on my next visit, March 23, quite a number were seen.

Oreoscoptes montanus. Sage Thrasher. The sage thrasher was not uncommon through the month of April but previous to that time it was rarely seen.

Mimus polyglottos leucopterus. Mockingbird. The song of the mockingbird was first heard on the morning of April 15. From that time on it was a source of constant pleasure.

Toxostoma bendirei. Bendire Thrasher. One taken April 8 and one April 17 were the only specimens seen.

Toxostoma crissale. Crissal Thrasher. Quite common. I found a nest April 3 containing two rotten eggs, at which I was surprised, as I had thought it too early for eggs. Three days later on the 6th, however, I shot a young bird just able to fly which confirmed the suspicions aroused on the 3d. Fresh eggs were taken after this, April 8, 11, 15 and 20.

Heleodytes brunneicapillus. Cactus Wren. A pair reared a brood of young in a nest placed in a hole in the corner of an old house. These were the only cactus wrens seen though quite a number of their conspicuous nests were noticed in the chollas and mesquites.

Salpinctes obsoletus. Rock Wren. A single specimen was taken near the house at Allaire's April 23, being the only one seen in the valley. In the Dragoon mountains, they were abundant in suitable places.

Thryomanes bewicki bairdi. Baird Wren. Quite common.

Troglodytes aedon aztecus. Western House Wren. Rather rare; a few were seen but none taken.

Cistothorus palustris plesius. Western Marsh Wren. Taken at Sulphur Spring March 16 at which time they were abundant.

Sitta carolinensis aculeata. Slender-billed Nuthatch. Abundant in the mountains, but none seen in the valley.

Parus wollweberi. Bridled Titmouse. Common resident in the mountains where they frequent the oak woods. Many were taken in the Dragoon and Chiricahua mountains.

Psaltiriparus plumbeus. Lead-colored Tit. Very common in the Dragoon mountains where it was generally seen with the preceding species.

Regulus sp. Kinglet. A few females were seen in the Dragoon and Chiricahua mountains.

Polioptila cærulea obscura. Western Gnatcatcher. First seen March 17; occasionally met with later.

Myadestes townsendi. Townsend Solitaire. Found in the Dragoon mountains in winter.

Hylocichla guttata auduboni. Audubon Hermit Thrush. One was taken in the Dragoon mountains April 14. A few others were seen on the same date.

Merula migratoria propinqua. Western Robin. Common in the Dragoon mountains.

Sialia mexicana bairdi. Chestnut-backed Bluebird. Common but less so than the following species, with which it was associated.

Sialia arctica. Mountain Bluebird. In winter large flocks were seen in the mountains and occasionally in the valley.

Notes on the Texan Jay

BY HOWARD LACEY

ON buying a small ranch in Kerr county, Texas, in the summer of 1882, and stocking it with a few cows and other domestic animals, I began to spend my spare time in studying the habits of the wild creatures that I met, and at first gave nearly all my attention to the birds of the neighborhood. Not finding anyone else who took much interest in such things, I bought Coues' Key to North American Birds, and with this and a shot gun I by degrees learned the names of most of the birds that I saw as I rode about the range. I dislike having to use the gun, so I made a point of making a rough skin (a very rough one indeed at first) of everything that I shot and could not identify.

In 1893 I was fortunate enough to make the acquaintance of the "professor" who was then living in San Antonio, with whom I have since taken many pleasant little excursions, and between us we got to be on familiar terms with most of our bird neighbors. One of the birds that I could not place was our common jay, now known as the Texan jay (*Aphelocoma texana*).

In December, 1894, when deer hunting on the head of the Nueces river, I shot and skinned one of these birds and sent it to the professor. He sent it on, I believe, to the late Captain Bendire, and it is now the type of the species. In

March, 1896, I heard that the jays were nesting on the ranch of a friend about sixteen miles north of my place, so I rode over there and on March 29th and 30th found several nests and took four or five sets of eggs. These were carefully packed in an old cigar box and stowed away in one of the saddle pockets, but unfortunately as I was taking a rest and a lunch on my way home, the horse shook himself and of course the saddle also, with the result that most of the eggs were broken.

In 1898 the professor arranged to visit this same ranch with me, and on April 4th we started in an old buckboard and had a fairly successful trip, getting some good specimens of the birds and several clutches of eggs. The ranch is situated at the head of one of the main branches of the Guadalupe and takes in some of the divide between that river and the Llano. As in other parts of the county the limestone rocks are in evidence everywhere. Numerous little valleys run down toward the rivers, becoming deeper and steeper as they approach the larger creek, and often forming narrow canyons with high bluffs on both sides. Large trees are not numerous, but the whole face of the country is covered with clumps of shin oak and scrubby live oak. In these clumps we found the jays' nests, generally placed near the outside of a thicket, at from four to six feet from the ground, and often conspicuous from quite a distance, as the shrubs were only beginning to put out their leaves at that time. As a rule the birds were setting and one nest contained young nearly ready to leave it. The nests were composed of an outer basket of twigs not very firmly put together, and lined rather neatly with grass, hair, and small root fibres. They were rather more bulky than mockingbirds' nests and the inner nest was saucer shaped rather than cup shaped. Most of them were placed in the shin oaks, but some few were in live oaks, and I have since found several in cedar bushes. The birds are not so noisy as the common blue jay and are particularly silent when near their nests. They have a habit of hopping upwards through a thicket from twig to twig until they arrive at the top of it, when they fly off with four or five harsh squeaks to the next clump of brush, into which they dive headlong. It was a very warm day with the thermometer in the shade of the gallery at the ranch standing well up in the nineties, and tramping about through the thickets and picking our way over the rocks was by no means light work, but the walk was so interesting that we did not have time to think of getting tired. Of course we found much to interest us besides the jays. An untidy platform of sticks in a small Spanish oak tree, proved on investigation to be a road-runner's nest, containing six eggs, which from their unusually clear appearance, were probably all of them fresh. One frequently finds eggs in different stages of incubation in a road-runner's nest and sometimes eggs and young birds of different sizes.

Several times we disturbed deer. They were in their fresh summer suits of red, having already discarded their gray winter overcoats. As is so often the case when one is not hunting them, they would stop to take a second look at us, offering pretty broadside shots at fifty or sixty paces. In one extra dense thicket at the head of a rough little hollow we found a pair of long-eared owls (*Asio wilsonianus*) the first we had ever seen in the county; and on a rocky ridge just beyond were a couple of burrowing owls. They flew a few yards and then settled on some rocks, nodding their heads at us in their usual ludicrous fashion. These owls do not breed in this county, but we see them every year in the spring and autumn. There are no prairie dog towns on this side of the Llano river, but plenty of them just across it and I have been told that the owls breed over there.

Many small flocks of migrating birds were seen, some of them just arriving for the summer and others getting ready to leave us. Conspicuous among the

latter were the crown sparrows and lark buntings, the male buntings already about half clothed in their striking summer plumage.

Large trees were rather scarce on the divide and were not very large there except by comparison. They were principally isolated live oaks or black-jacks and most of them contained nests of the red-tailed hawk, usually old and deserted, but the new ones already contained either eggs or young birds. Of course all the hollow trees we saw had to be closely inspected and in one old stump we found a large pole cat peacefully taking his siesta. We had a good look at him but were very careful not to disturb his slumbers. He belonged to the white-backed, bare-nosed species and appeared to be very fat, also, fortunately for us, very sleepy.

In the winter the Texan jays are generally in small parties of four or five individuals, family parties probably. In the winter of 1896-1897 when large numbers of the common eastern blue jay (*Cyanocitta cristata*) visited us, and it was not uncommon to see flocks of from fifty to one hundred of them, our native jays did not mix with them but wandered about in their usual small flocks. These flocks, however, were far more numerous than they have ever been since. Probably a heavy crop of shin oak acorns in this neighborhood and a failure of the mast in other places, attracted the birds of both species. I have not seen the eastern jay here but once before; in 1887 they were very plentiful. They remained until the middle of April on both occasions, but none of them stayed here to breed.

A List of Birds from the Santa Cruz Mountains, California

BY MALCOLM P. ANDERSON AND HUBERT O. JENKINS

DURING the Christmas holidays of 1902-03 the writers made a ten days trip from their homes in Santa Clara Valley, California, to the sea, a distance of twenty-five or thirty miles. At that time recent rains had made the mountain road very bad so our first day, and half of the second, was spent in reaching San Gregorio Creek, a stream on the western slope of the coast range. Here near the village of La Honda we camped several days on the bank of the stream in a deep cold canyon. This canyon runs east and west at this point, so the sun which rose to us about nine, lingered just above the crest of the southern mountain until near four in the afternoon. The northern slope of the canyon thus received some warmth, but the southern and densely wooded side, little or none. For this reason, no doubt, the upper parts of the northern side have been cleared and were then in use as pastureland while the original forest, except some of the largest redwoods has been preserved on the southern side.

The most prominent forest tree in the neighborhood is the redwood (*Sequoia sempervirens*), but many Douglas spruces (*Pseudotsuga taxifolia*) occur, and the undergrowth is very dense. This consists largely of several species of oaks (*Quercus*), the tan-bark oak (*Quercus densiflora*), the buckeye (*Æsculus californica*) and the poison oak (*Rhus diversiloba*). San Gregorio creek, like all streams of this portion of the coast range is lined with alders (*Alnus oregana*), and the California laurel (*Umbellularia californica*) occurs on the banks as well as on the damp hillsides high above the stream. About two miles west of La Honda or eight miles from the coast the redwood forest ceases quite abruptly, giving place

to a country bearing a few oaks, and below this is a land still of a hilly character which has no trees, except along the streams and where they have been planted by man.

After we had spent several days at work in the redwoods we proceeded down San Gregorio creek to the coast where we camped on the beach at the mouth of the stream. About a mile from its actual mouth and just below the village of San Gregorio, the creek forms a lagoon some fifty or sixty feet wide and flows thus, slowly to the ocean. Ordinarily the water of this lagoon is perfectly fresh but at the highest tides the sea must enter for some distance. The banks of the upper portion of this calm water are grown with willows (*Salix lasiolepis*) and a dense tangle of brambles, but nearer the ocean there is a tule marsh of some extent. Except at the stream's mouth the shore is a line of bluffs for the country preserves its hilly character to the very coast.

The following list lays no claim to being exhaustive, as will plainly appear. It is merely a list of the birds we saw and obtained on our outing.

Aythya marila. Scaup Duck. Several males were found in the lagoon at San Gregorio.

Erismatura jamaicensis. Ruddy Duck. Noticed frequently upon the lagoon.

Fulica americana. American Coot. Very common upon the lagoon. Large flocks were seen feeding upon green grass on the shore.

Lophortyx californicus. California Quail. Abundant in the underbrush everywhere.

Falco sparverius phalæna. Western Sparrow Hawk. A number of these birds were seen in the open fields between La Honda and the coast.

Bubo virginianus (saturatus?) Horned Owl. At La Honda two were heard hooting in the redwoods at dusk.

Ceryle alcyon. Belted Kingfisher. A kingfisher was often seen flying along the creek near our La Honda camp.

Dryobates villosus hyloscopus. Cabanis Woodpecker. An individual seen in a redwood near La Honda.

Melanerpes formicivorus bairdi. California Woodpecker. Seen working on dead redwoods at La Honda where they were common.

Sayornis saya. Say Phoebe. Three specimens of the Say phoebe were collected and others were seen in the fields about San Gregorio.

Sayornis nigricans semiatra. Black Phoebe. Very common in the fields near the coast and along the road between the redwoods and San Gregorio.

Cyanocitta stelleri carbonacea. Coast Jay. This jay was common at La Honda, where it frequented the redwoods largely.

Aphelocoma californica. California Jay. California jays were common on the outskirts of the redwood forest.

Sturnella neglecta. Western Meadowlark. Meadowlarks were common along the San Gregorio road below the redwood forest.

Astragalinus psaltria. Arkansas Goldfinch. A flock of gold finches was seen in a buckeye on the road to San Gregorio. One specimen was taken.

Ammodramus sandwichensis alaudinus. Western Savanna Sparrow. These sparrows were common in the pastures near the coast.

Ammodramus sandwichensis bryanti. Bryant Marsh Sparrow. At San Gregorio one of these was taken near a pond on a hill and another in the brush on the bank of the lagoon. No others were observed.

Zonotrichia leucophrys nuttalli. Nuttall Sparrow. Nuttall sparrows were

everywhere abundant at San Gregorio; the specimens taken were well marked. No *gambeli* were found.

Junco hyemalis pinosus. Point Pinos Junco. One junco was secured near La Honda and a large flock was seen on the roadside just out of the redwood forest.

Melospiza cinerea santæcrucis. (Grinnell) Santa Cruz Song Sparrow. We found song sparrows common among the tules at the mouth of the San Gregorio creek. They were noticed particularly at dusk.

Melospiza lincolni striata. Forbush Sparrow. Two species were shot, one in bushes on the shore of the lagoon and one on top of a hill not far distant.

Passerella iliaca meruloides (Vigors). Yakutat Fox Sparrow. We obtained a single specimen of this bird at San Gregorio. It was shot while perched upon the dead stalk of a weed on a bare hillside.

Pipilo maculatus falcifer McGregor. San Francisco Towhee. This towhee was heard and seen along the creek at La Honda.

Pipilo crissalis. California Towhee. Abundant along the road between the border of the redwoods and the village of San Gregorio.

Lanius ludovicianus gambeli. California Shrike. The California shrike was a fairly common bird in the open country between the edge of the forest and the coast.

Dendroica auduboni. Audubon Warbler. A few Audubon warblers were seen in trees and bushes in the valley of San Gregorio creek.

Anthus pensilvanicus. American Pipit. Pipits were common in plowed fields on the coast.

Cinclus mexicanus. American Dipper. Three dippers were taken on the creek near La Honda.

Thryomanes bewicki spilurus. Vigors Wren. Several Vigors wrens were noticed among fallen logs and underbrush in the canyon of the creek near La Honda.

Olbiorchilus hiemalis pacificus. Western Winter Wren. Winter wrens were less commonly seen than Vigors wrens. One specimen was taken near La Honda.

Parus rufescens barlowi. Santa Cruz Chickadee. Several flocks of chickadees were seen flying among the redwoods.

Chamæa fasciata. Wren-tit. Wren-tits abounded in the underbrush of the redwood forest.

Regulus calendula. Ruby-crowned Kinglet. Abundant at La Honda where it was especially noticed about laurel trees.

Regulus calendula grinnelli. Sitka Kinglet. One specimen of this bird was taken in a clump of young redwoods near La Honda.

Hylocichla guttata nana. Dwarf Hermit Thrush. A very common bird at La Honda.

Hesperocichla nævia. Varied Thrush. Large numbers of varied thrushes were seen at La Honda.

The Rocky Mountain Screech Owl in Larimer County, Colorado

BY W. L. BURNETT

THIS owl (*Megascops a. maxwelliae*) is quite a common resident in suitable places throughout the greater part of the county, extending into the mountains to about 7000 feet, but it reaches the height of its abundance along the foothills. To visit the haunts of this bird one has to follow the wooded streams, and as they lie off the usual course of travel, *M. a. maxwelliae* is unfamiliar to all but naturalists. Altho usually nocturnal, they are frequently met with in the day time. You often see one napping on a limb close to a tree trunk, and when disturbed it seems to suffer little inconvenience by the glare of the day.

These creatures make their homes in hollow cotton-woods, box-elders and willows, and you can always locate them by the pellets which lie around. From the nature of the material and from what stomachs I have examined I think their principal food is mice, which are abundant. I am satisfied they do not nest in the same cavities they use for a winter home, as I have for several years made the rounds in winter and marked the inhabited trees, but not in a single instance have I found eggs in the marked trees. They sometimes appropriate the abandoned nests of the American magpies. Their eggs are not easily taken as the following account of a collecting trip will show.

In company with Mr. F. M. Dille we left Fort Collins one morning about eight o'clock, followed the Cache La Poudre river on the south side as far as Bellvue and returned on the north side, arriving home about three o'clock. After eating a lunch we went down the river (south) returning at eight o'clock p. m. with only two sets for the day's work, after covering about sixteen miles of timber. One was a set of four, badly incubated, the other of five eggs, nearly fresh, and as handsome a set as I ever saw. They were white and clear, while the four were very much nest stained.

What pleasant memories those collecting trips leave. As I am writing this, altho several years have passed, I can again see the nesting cavity, in which we took our set of four, in a cotton-wood tree which was leaning over a shallow pool, where minnows flashed their silver sides in the sunlight. Our set of five was found in a willow stub. I can still hear Dille making his great speech about how destructive *M. a. maxwelliae* were to poultry. The cause of this burst of eloquence was the sudden appearance of a ranchman exclaiming, "What are you doing there?" just as I had made the important discovery that the nest contained five eggs. Almost invariably the nesting cavities are on the under side of a limb and we made several difficult climbs with the aid of a lariat rope.

That these owls sometimes become bold when driven by hunger, the following episode will show. There had been a week or two of severe weather, with about ten inches of snow on the ground. We had a pet canary hanging at the dining room window. One evening we were startled by a crash against the pane. There seemed to be a whitish object without, and on investigating we found the cause of our alarm to be a screech owl, attempting to reach the canary, for a meal. He was very persistent and repeated his attempt at frequent intervals until the light was removed from the room.

The Santa Cruz Island Vireo

BY JOSEPH GRINNELL

+ *Vireo mailliardorum* new species

CHARACTERS—Similar to *Vireo huttoni* of the mainland of California, but slightly inferior in size with especially smaller bill; coloration darker, more leaden olive above and a little more buffy yellow below posteriorly.

TYPE—♂ (in unworn adult annual plumage); No. 5425 Coll. J. G.; Friar's Harbor, Santa Cruz Island, California; September 1, 1903; collected by J. Grinnell.

MEASUREMENTS (in inches)—

Collection	No.	Date	Sex	Wing	Tail	Tarsus	Culmen	Bill from nostril
J. Grinnell	5424	Sept. 1, '03	♀	2.35	2.15	.78	.40	.25
"	5425	" " "	♂	2.40	2.16	.71	.40	.25
"	5426	" " "	♂	2.38	2.14	.76	.39	.24
J. & J.W. Mailliard	3145	April 15, '98	♂	2.39	2.11	.76	.40	.25
"	3171	" 17, "	♀	2.27	2.06	.72	.39	.24
"	3218	" 21, "	♂	2.43	2.15	.72	.40	.25

DISTRIBUTION—Permanently resident on Santa Cruz Island, California.

REMARKS—Santa Cruz Islands lies about twenty miles off the coast of Santa Barbara county, California. Although it is so close to the mainland, a large number of its plants and more sedentary animals have proven to be peculiar. Mr. Joseph Mailliard during a visit to this island in 1898 secured three specimens of the above-described bird. Moreover he mentioned some of its points of difference as compared with the mainland *Vireo huttoni*; but his well-known conservative attitude in regard to slightly defined species deterred him from bestowing a name. During a recent visit to Santa Cruz Island I also found *Vireo mailliardorum* to be fairly numerous among the live-oaks in the canyons at the west end. Three specimens were obtained. The six skins at hand agree in the characters as outlined. The species is named for Messrs. Joseph and John W. Mailliard, whose conscientious work with western birds deserves at least this slight token of our recognition.

CORRESPONDENCE

The A. O. U. Model Law

TO THE EDITORS OF THE CONDOR:

DEAR SIR:—Under the head of 'Editorial Notes' in the September-October issue of THE CONDOR is a most surprising outburst of criticism and abuse of the A. O. U. 'model law' and, incidentally, of the A. O. U. Committee on Bird Protection, so evidently prompted by selfishness and so pervaded with ignorance and misconception of the real facts of the case that a word in reply seems desirable. The outcry¹ is against the clause granting permits to properly accredited persons for the collection of birds and their nests and eggs for strictly scientific purposes, which was inserted especially to allow 'Ornithology to come in.' "Take this feature away, says the writer,² "and it is a good law." He glories in the fact that his own State of California "is still free," and adds that "it is largely to this fact that its exceptional ornithological activity is due. We need a good bird law here, but we of the Cooper Club are not criminals and do not require to be bonded when we seek the festive song sparrow or chickadee."

The fact is overlooked that without this provision the ornithologists who merely collect birds, for scientific study, the pot hunter and the commercial bird trapper would all be in the same criminal category of law breakers, subject to arrest and punishment whenever detected.

³ The hardship, here editorially so grossly exaggerated, of taking out a bond and paying the trivial fee of one dollar a year, suffices to differentiate the ornithological collector from the criminal classes, and ensures his protection from the annoyance of arrest, to which he would otherwise be liable. The law cannot well otherwise discriminate such non-criminals as the members of the Cooper Club, or of the A. O. U., or other reputable bird students, from the pot hunter, the mil-

¹ a Bulletin Cooper Orn. Club I, May 1899, p. 44.

linery collector, or the lawless boy or man who shoots birds or destroys their nests and eggs in pure wantonness.

This law was draughted by the A. O. U. Committee on bird protection in 1886 and was adopted by the State of New York the same year. Since that date, through my official connection with the American Museum of Natural History, I have had supervision of the issuance of the permits to collect birds, their nests and eggs for which it provides. „Fifteen years' experience enables me, therefore, to speak with some authority of its workings and it may be said that so far as bird students in New York are concerned the simple legal requirements connected with securing a permit and the nominal fee of one dollar, far from being considered a "hardship," are welcomed as a means of protection from indiscriminating game wardens.

Indeed, so desirable is the permit feature usually considered by ornithologists that with the single exception of California they have uniformly advocated the passage of the A. O. U. law, not only as a measure designed to protect birds from wanton destruction, but as a means of legalizing their own calling. The atmosphere of liberty-loving California, however, appears to stimulate a different feeling.

Especial stress is laid, in the editorial in question, on the hardships inflicted on the non-resident who wishes "to go over the border" for a few weeks' collecting in a neighboring state. In most states and territories of the Union and of Canada the non-resident gunner is required, under current game laws, to take out licenses and pay special permit taxes to kill game, all in the alleged interest of game protection; but when we go to "seek the festive song sparrow or chickadee" in a neighboring state our editorial advocate of ornithological freedom resents any "bonded" hindrances believed to be for the public good. ⁶ Possibly our friends of THE CONDOR have some happy device for a bird law that will protect the little birds from all their human foes (which do not include the "better balanced ornithologists") and be not "un-American nor in any way trammel their dearly cherished ornithological freedom.

American Museum of Natural History,

New York City, Oct. 6, 1903.

J. A. ALLEN.

[Dr. Allen has indeed turned upon us the artillery of his strenuous rhetoric, and were his aim less careless we might feel inclined to betake ourselves to tall timber. We had not the slightest notion upon whose special preserves we were trespassing, when we penned the mild criticism, for which we are threatened with immediate annihilation. If the Doctor is pleased to term our editorial an "outburst," we might ask what especial epithet he would apply to his present communication. We would like to say at the outset, however, that our editorial *did not* abuse the A. O. U. Bird Law, nor the committee, even "incidentally," as anyone may see who takes the trouble even to skim over the criticism in question, and just why this positive assertion is made, we are at a loss to understand.

Dr. Allen's animadversions provide good reading for those who delight in the prospect of an impending tilt in polemics. Yet, candidly, we cannot see how anyone could distort our remarks so completely, as put forth such a reply. The only alternative left us is to conclude that our friendly critic is suffering from an aggravated case of "misconception" of the main point of our contention. Some of Dr. Allen's items have been numbered by us and will be referred to seriatim.

(1) Our "outcry" is most certainly *not* against the clause granting permits to properly accredited persons for the collection of birds and their nests and eggs, but is, as stated succinctly in the editorial, directed against the necessity of taking out a 200 dollar bond every time such a permit or license is obtained. We are heartily in favor of special permits, but not the bonds.

(2) This is what is called "abuse" a few lines above.

(3) We repeat that the taking out of a bond *is* an expensive hardship, and was not "grossly exaggerated." (See Mr. Nelson's communication on this point). We have no special objection to the \$1.00 license-fee, if it is a just fee, but exactly how the addition of a bond helps to discriminate between non-criminals such as reputable bird-students, and the other class, such as pot-hunters, our generalizing opponent of "ornithological freedom" does not specify. Pot-hunters are not recommended by two responsible ornithologists, nor do they bear special licenses.

(4) In passing we might casually ask our critic how many bonds have been forfeited during his fifteen years' experience in supervising the issuance of permits in New York state, and if any, were the parties each recommended by two well known ornithologists, as the law requires? We presume "bonds" are in force in New York, tho here again the Doctor dodges the issue.

(5) In answer to these points we recommend the careful perusal of Mr. Nelson's remarks, printed below.

(6) Yes, Doctor, even your friends of THE CONDOR can offer some timely suggestions for the improvement of the 'Model Bird Law' and we repeat the one already given gratuitously: strike out the bond feature from the clause pertaining to the issuance of licenses. This, we be-

lieve is the happy device whereby the little birds will still be protected "from all their human foes," and the law will not be un-American, "nor in any way trammel" our "dearly cherished ornithological freedom." That many of the leading ornithologists of the country (who are presumably among the "better-balanced") do object to the bond feature we can amply prove, if evidence is desired.

In conclusion we might add that we sincerely regret that our critic has twisted and so entirely misconstrued our (to the western mind) really mild editorial. Still with the friendliest intentions in the world we cannot help hoping that the next time he goes gunning for heretical Western editors, his efforts may be crowned with better success.—WALTER K. FISHER.]

On the 'Bonding Clause' of the A. O. U. Model Law

TO THE EDITOR OF THE CONDOR:

In the last CONDOR I note with approval some editorial objections to the bonding feature of the A. O. U. bird law. The utility and necessity of a license system in laws for bird protection are self-evident. But it appears to me that when the issuance of a license is properly safeguarded and its misuse by the holder is attended by permanent forfeiture and, if necessary, similar penalties to those inflicted for the breaking of game laws all reasonable requirements have been fully met.

The necessity of securing a bond is objectionable from several points of view. In many cases it will work hardship even to the point of preventing the accomplishment of valuable ornithological work. This will be brought about by the delays incident to securing a bond by a stranger, especially where it will be desirable to work say for a week or two in a state and one's time is limited. Or in the case of an ornithologist who would desire to work in several states during the same season. In such a case as that just mentioned, if a recent instance that has come to my knowledge is any criterion, the ornithologist would find it practically impossible to accomplish any work by the delays in securing the necessary bonds. In addition to this is the annoyance of having to ask friends to go upon one's bond, for bonding companies are expensive and not always available. If the laws for bird protection are aimed at those who destroy birds wantonly or for purposes of gain and not at field ornithologists then the bonding clause in the regulations governing the issuance of licenses to properly accredited ornithological students should be cut out.

E. W. NELSON.

THE EDITOR'S BOOK SHELF

A NEW *PROCELSTERNA* FROM THE LEEWARD ISLANDS, HAWAIIAN GROUP. By WALTER K. FISHER. From Proc. U. S. Nat. Mus. XXVI, pp. 559-693, Jan. 29, 1903.

In this paper a new tern of the genus *Procelsterna* is described. The birds were discovered, by the Albatross Hawaiian Expedition, on Necker Island, to the westward of the main Hawaiian Group. So far as known this tern inhabits only Necker, French Frigate Shoal, and Bird Id. Singularly it is most nearly related to *Procelsterna cinerea* of Australian waters, and not to *cerulea* of central Polynesia. The eggs, downy chick, and juvenal plumage are also described.

BIRDS OF LAYSAN AND THE LEEWARD ISLANDS, HAWAIIAN GROUP. By WALTER K. FISHER. Extracted from U. S. Fish Com. Bull. 1903; pp. 1-39 plates 1-10.

In this readable as well as thoroughly scientific paper we find the ornithological results of the Albatross Hawaiian explorations in 1902. The recentness of the observations adds an element of freshness to the unusual accuracy and vividness of the descriptions; and thus we are given by far the most valuable account which has yet appeared of "the greatest bird island in the world." Then too the fifty-two half-tones are fine examples of successful bird-photography, though we are disappointed that these could not have been reproduced at least in original size instead of reduced. One is perhaps most struck by the wonderful fearlessness displayed by the individuals of nearly every species presented in the mammoth bird community. We can only share with the author the fear of the deplorable consequences which would follow the introduction of some predaceous animal such as the cat. For Laysan Island is small, only three miles long, and easily accessible over the entire surface. The unparalleled opportunity afforded for study of the habits and life-histories of the various sea-fowl can be appreciated only after reading Mr. Fisher's faithful portrayal of his week's visit with the birds of Laysan.

NOTES ON THE BIRDS PECULIAR TO LAYSAN ISLAND, HAWAIIAN GROUP. By WALTER K. FISHER. From 'The Auk' XX, pp. 384-397, plates XII-XVI, Oct. 1903.

The author discusses the habits of the land birds of Laysan Island, and to some extent their relationships. This paper is an amplification of certain notes published in 'Birds of Laysan, etc.,' with the addition of several photographs not appearing in that paper. The reproductions are much better, and demonstrate the mistake made by the publishers of the 'Birds of Laysan' in attempting a cheap means of reproducing an exceptionally valuable set of pictures.

It is indeed singular that such a small island as Laysan should possess three land birds besides a rail and a duck, all peculiar.—JOSEPH GRINNELL.

BIRDS OF THE SISKIYOU MOUNTAINS, CALIFORNIA: A PROBLEM IN DISTRIBUTION. By MALCOLM P. ANDERSON AND JOSEPH GRINNELL. Proc. Acad. Nat. Sciences, Philad., pp. 4-15, Apr. 17, 1903.

The Siskiyou mountains in northern California are interesting faunally because they are a wedge between the more or less 'arid' Sierras on the east and the excessively moist coast belt on the west. The first portion of the paper concerns itself with the physiography of the region, and a list of the principal forest trees is given, all of which are characteristic Sierran forms. The only peculiar tree to this range, *Picea breweriana*, seems to have been overlooked. The Transition, Canadian, and Hudsonian Zones are represented.

As would be expected *a priori*, the avifauna proves to be a mixture of the Humid Coast Fauna and the Arid Sierran, and the "list is a remarkable one as showing the association of a number of birds not unusually found together." Forty-three species are listed. *Vireo huttoni obscurus* is found to be untenable.

A LIST OF LAND BIRDS FROM CENTRAL WASHINGTON. By ROBERT E. SNODGRASS. From 'The Auk,' XX, pp. 202-209, April, 1903.

During the summer of 1902 Mr. Snodgrass conducted a biological collecting expedition to the interesting Grand Coulee country of Central Washington, and the ornithological results are embodied in the present paper. The Grand Coulee is the bed of an ancient and temporary short-cut for the Columbia river around the eastern face of the old glaciers which flowed southward and eastward from the mountains. It is a gorge fifty miles long, and from one to two miles wide cut down three hundred to five hundred feet into the basalt. The country in this region is for the most part very desolate, being given over to the cultivation of wheat, and "there is nothing left of Nature but the air and the dust of the road." Fifty-two species of land birds were listed, with brief annotations.

ON THE TERRESTRIAL VERTEBRATES OF PORTIONS OF SOUTHERN NEW MEXICO AND WESTERN TEXAS. By WITMER STONE and JAMES A. G. REHN. Proc. Acad. Nat. Sci. Philad. pp. 16-33, May 7, 1903.

Mr. Stone has given us a list of forty-one species of birds secured by Messrs. Rehn and Viereck in the Sacramento Mountain region of south central New Mexico, and the extreme western portion of Texas. Specimens of thirty-one of the species were taken, the other ten being admitted on field identification. The range of *Spizella atrigularis* is extended eastward by the capture of a specimen at Dry Canyon, Otero Co., N. M.

DESCRIPTIONS OF NEW GENERA SPECIES AND SUBSPECIES OF AMERICAN BIRDS. By ROBERT RIDGWAY. Proc. Biol. Soc. Washington, XVI, 105-112, Sept. 30, 1903.

In this paper Mr. Ridgway publishes diagnoses of four new genera of swallows, and twenty new species and subspecies of North and Middle American birds. These new forms are included in Part III of "Birds of North and Middle America," "now mostly in print, the further printing and publication of which has been postponed until after June, 1904." Of interest to western bird students is *Budytes flavus alasensis* from Western Alaska; *Lanius ludovicianus mearnsi*, from San Clemente Island, Cal., and Santa Margarita Island, Lower California; *Beolophus inornatus restrictus*, "vicinity of San Francisco Bay, Cal.,"; *Beolophus inornatus murinus*, Southern California and northern Lower California; *Psaltiriparus minimus saturatus*, "vicinity of Puget Sound"; *Chamaea fasciata rufula*, "central coast district of California, in Marin, San Francisco and Santa Clara counties." Part III of Mr. Ridgway's great work will contain much of especial value to Californians and we greatly regret the unlooked for delay in its appearance. The cause, needless to say, is due to circumstances over which the author has no control.

THE NORTH AMERICAN FORMS OF *ASTRAGALINUS PSALTRIA* (SAY), By HARRY C. OBERHOLSER. Proc. Biol. Soc. Washington XVI, 113-116, Sept. 30, 1903.

Mr. Oberholser has briefly reviewed the North American forms of *Astragalinus psaltria* of

authors, namely *A. p. psaltria*, *A. p. arizonæ* and *A. p. mexicanus*. He concludes that the last two are the same as *Astragalinus p. psaltria*. *Arizona*, from Fort Wingate, N. M. was based on the immature parti-colored plumage of *psaltria*, and *mexicanus* is nothing more than the fully perfected black-backed plumage of the same subspecies. All three of these so-called races have been found breeding together in Colorado. All adult males from Lower California, California, Nevada, Arizona and Utah "have the back olive green, apparently never assuming the black plumage of true *psaltria*." This form is described as *Astragalinus psaltria hesperophilus*, the type being taken from San Bernardino.

BIRDS IN THEIR RELATIONS TO MAN. By CLARENCE M. WEED and NED DEARBORN. 8vo. 380 pages, and many full-page and text illustrations. T. B. Lippincott Co., Philad. 1903.

This excellent book is, as the title-page states, "A Manual of Economic Ornithology for the United States and Canada." It is written in an entertaining style, and is certainly a very valuable addition to the literature of economic ornithology. As a storehouse of facts for the lay-reader, as well as for the professional ornithologist, it will be warmly welcomed, and its mission of education is one to be highly commended. In such a short notice it is difficult to give an adequate idea of a book of this character, which necessarily deals with many details. We would therefore advise the reader to procure a copy, if he is interested in this important branch of ornithological study.

THE ECONOMIC VALUE OF BIRDS TO THE STATE. By FRANK M. CHAPMAN. State of New York Forest Fish and Game Commission, 4 to, pp. 1-66, 12 colored plates. Sept. 1903.

In this excellent paper Mr. Chapman has presented a treatise on the economic status of the more important land birds of New York state. But from the nature of the subject his remarks have a much wider application, and omitting certain species would apply very well to California. Of necessity much of the paper is compilation, but the author has exercised good judgment in the selection of extracts, and in the choice of his sources.

The paper opens with 'The Bird and the State,' followed by 'What the Bird Does for the State,' under which is considered, 'The Bird and the Forester,' 'The Bird and the Fruit-grower,' 'The Bird and the Farmer,' and 'The Bird and the Citizen.' Then follows 'What the State does for the Bird,' 'What the State Should Do for the Bird,' and 'The Facts in the Case.' The principal families of land birds are taken up in order, and the commoner or more important economic species are considered under each. Copious references are given to original sources, which makes the paper a most handy compendium of economic ornithology.

The twelve colored plates are by Mr. Louis Agassiz Fierste, and are well reproduced. They represent twenty-four species, of the leading types, from hawks to thrushes. The plate representing the red-tailed and Cooper hawks is particularly fine, both in the pose of the birds and in coloring, and we are also much taken with that of the screech owl, representing the gray and rufous phases of this familiar bird.

NOTES ON THE ANATOMY OF GEOSPIZA, COCORNIS AND CETHIDIA. By ROBERT E. SNODGRASS. From 'The Auk,' XX, pp. 402-17, plates XVII-XX.

Mr. Snodgrass compares at some length the anatomy of *Geospiza*, *Cocornis* and *Certhidia*. *Certhidia* is usually considered as belonging to the Mniotiltidae and *Geospiza* and *Cocornis* to the Fringillidae, but "in all structural points *Cocornis* really resembles *Certhidia* more than it resembles *Geospiza*. To be sure, the adult males of *Cocornis* and most of the *Geospiza* species are almost plain black, while the adults of *Certhidia* are gray with admixtures of olive and brownish. Yet, in the shape of the bill and in the structure of the skull *Certhidia* and *Cocornis* are almost identical. On the other hand, the structural differences between *Cocornis* and *Geospiza* are slight—the slender-billed *Geospiza* differ from *Cocornis* in the characters of the skull and skeleton of the bill scarcely more than *Cocornis* does from *Certhidia*. The difference is not nearly so great as that between the slender-billed forms of *Geospiza* itself. Hence, a study of these three genera, is suggestive of a possible derivation of *Geospiza* from *Cocornis* and of *Cocornis* from *Certhidia*. This however, would place *Geospiza* in the Mniotiltidae!"

There is no objection to this, Mr. Snodgrass. Certain learned authorities group together into the family Drepanididae birds as dissimilar as our redstart and cardinal grosbeak. Verily classification plays some queer pranks!—WALTER K. FISHER.

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EDITORIAL NOTES

Mr. H. B. Kaeding has been obliged to resign the secretaryship of the Club, having been called to Mexico for an indefinite period. The club can ill afford to lose such an active officer, and we hope Mr. Kaeding will soon be among us again. Mr. C. S. Thompson, of Stanford University, has been appointed secretary for the remainder of this year. All communications to Mr. Kaeding should be sent to 820 Scott St., San Francisco.

If we may correctly judge from numerous letters, our objections to the bond clause of the A. O. U. Bird Law (published in the September issue) must have voiced a rather widespread feeling among active field workers. Nearly everyone from whom we have heard seems agreed that the bonds do not accomplish enough good to pay for the inconvenience of procuring them, while evidence is forthcoming which tends to show that they may do harm.

As a matter of history it is perhaps worth recording that when the A. O. U. Model Law was introduced into the California legislature on February 18, 1903 as Senate Bill No. 649, by Senator Lukens, not only was the bond feature stricken out, but likewise the license fee.

At the November session of the Club the following nominations were made for officers for 1903: for President, Henry Reed Taylor; Senior Vice-president, R. B. Moran; Junior Vice-president, Earle Mulliken; Business Manager, J. Grinnell; Secretary, Charles S. Thompson.

The annual meeting will be held at the residence of the President, Mr. H. R. Taylor, 1375 Regent St., Alameda, on the second Saturday in January. All members within reach should make a point to attend. The annual meeting is always more given over to a social good time, than to papers, and the coming ses-

sion offers a splendid chance for everyone to become acquainted. Remember the time and place, and do not plead a "previous engagement!"

The twenty-first congress of the American Ornithologists' Union will be held at Philadelphia, beginning on the evening of Monday, November 16, 1903, and extending to the 19th.

The index which is bound into the present issue is the work of Mr. Grinnell. We wish also to thank Mr. Louis Agassiz Fournes for the original of the vignette which appears on the title page.

This is the last issue of volume five. It is a fact worth recording that subscriptions for volume six, 1904, are now due. We merely whisper it as a hint, for our subscribers and friends are wise. It is likewise a truism that the more subscribers we have the better magazine we can offer. Promptness in remembering the New Year obligation is often as gratifying to us as new subscribers.

Minutes of Northern Division Meeting

SEPTEMBER. The September meeting was held at the residence of R. B. Moran, in Palo Alto on the evening of the twelfth; W. K. Fisher, acting chairman, in the chair; 16 members and six visitors present. The following were elected to active membership: F. E. L. Beal, Washington, D. C.; Gertrude Forrester, Round Mt., Cal.; Foster C. Wright, Los Angeles. The following persons were proposed for election: T. S. Palmer, Frank M. Chapman and G. L. Kaeding. The resignations of A. M. Shields and E. K. Taylor were accepted. The following amendments to the constitution were proposed, passed and referred to the Southern Division for action.

Art. III, Section 5 to read, "Any person who shall, in the opinion of the Club, have rendered valuable or distinguished services in the advancement of ornithology, shall be eligible to Honorary Membership in this Club."

Art. II, Section 1 to read "This Club shall consist of two co-ordinate bodies known as the Northern and Southern Divisions respectively, the geographical limits of the Southern Division to be that portion of the State of California lying south of the 35th parallel of North Latitude."

The program was one of unusual interest. John M. Willard talked on the "Hiding of Young Birds"; J. O. Snyder on "Fishing With Cormorants in Japan"; R. B. Moran on "The Nesting Habits of the Black Oystercatcher"; and H. B. Kaeding on "Hawking in Korea."

After refreshments and a social session the Club adjourned to meet at Berkeley, November 7.

H. B. KAEDING, Secretary.

Dr. C. W. Richmond notes, in a recent number of the Proceedings of the Biological Society of Washington, that *Corvus americanus* Audubon, 1834, must give place to *Corvus brachyrhynchos* Brehm, 1822. *Scolecophagus* Swainson, 1831, preoccupied, becomes *Euphagus* Cassin, 1866.

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